

CLAIMS

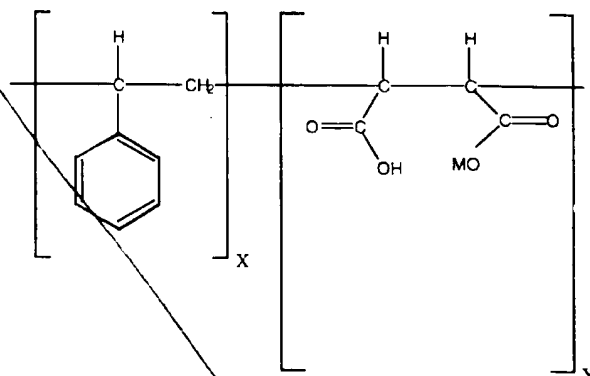
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1. A shale-stabilizing additive comprising a polymer based on an olefinically unsaturated hydrocarbon with alkylene oxide based side chains added to a wellbore drilling or service fluid to be injected into subterranean formations.
 2. The additive of Claim 1 wherein the polymer is a copolymer of an olefinically unsaturated hydrocarbon and an ethylenically unsaturated carboxylic acid, carboxylic acid salt or carboxylic acid anhydride with alkylene oxide based side chains.
 3. The additive of claim 1 or 2, wherein the polymer is a copolymer of styrene or a styrene derivative and maleic anhydride with alkylene oxide based side chains.
 4. The additive of any one of claims 1 to 3, wherein the polymer has a molecular weight of from 5000 g/mol to 100,000 g/mol.
 5. The additive of any one of claims 1 to 4, wherein the weight of the alkylene oxide based side chains is above 200 g/mol.
 6. The additive of any one of claims 1 to 5, wherein the number of alkoxylates in the polymer side chain is up to 60 units.
 7. The additive of any one of claims 1 to 6, wherein the polymer has the molecular structure:

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cont.

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wherein M in each occurrence independently is hydrogen or -
[CH₂-CHR-O-]_n-CH₃ with R being CH₃ or CH₂-CH₃ or hydrogen,
with the proviso that at least some of the radicals M have
the meaning of -[CH₂-CHR-O-]_n-CH₃, n is from 3 to 70,
preferably greater than 4 and less than 60, and X and Y
each independently are from 1 to 100.

8. The additive of claim 3, wherein the residual maleic anhydride groups in the polymer are hydrolyzed.
9. Wellbore drilling or service fluid, said fluid comprising a polymer based on an olefinically unsaturated hydrocarbon with alkylene oxide based side chains to be brought into contact with subterranean, specifically clayey formations.
10. The wellbore fluid of claim 9, being water based.
11. Use of a polymer based on an olefinically unsaturated hydrocarbon with alkylene oxide based side chains for stabilizing shale or clayey formations.

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